REMARKS

This application has been carefully reviewed in light of the Office Action dated January 9, 2003. Claims 1-3 and 5-7 remain pending in this application. Claims 1 and 6 are the independent claims. Favorable reconsideration is respectfully requested.

On the merits, the Office Action rejected Claims 1-2 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Hawker et al. (U.S. Patent No. 6,413,587; hereinafter "Hawker"). The Office Action also rejected Claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Hawker in view of Maracas et al. (U.S. Patent No. 5,937,758; hereinafter "Maracas"). The Office Action also rejected Claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Whitesides et al. (U.S. Patent No. 5,900,160; hereinafter "Whitesides") in view of Biebuyck et al. (U.S. Patent No. 5,935,359; hereinafter "Biebuyck"). The Office Action also rejected Claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Whitesidesides in view of Whitesides et al. (Article Soft Lithography Agnew. Chem. Int. Ed. 1998, v. 37, patges 551-575; hereinafter "Whitesides-Article"). Applicant respectfully submits that the pending claims are patentable for at least the following reasons.

Applicant's Claim 6 recites: "[a] A method of manufacturing a stamp (10) for use in a lithographic process, which stamp (10, 110)

has a stamp body (5, 105) with a surface (4, 104) which coincides partly with the printing face (3, 103),

comprising the steps of:

anisotropic etching of a surface (27) of a mold (20) into a patterned mold surface (29), such that a first recess (21) and a second recess (23) are created in the mold (20) with apertures in the original surface (27), which first recess (21) and a second recess (23) become narrower as its distance to the original surface (27) increases and has cross-sections parallel to the original surface (27) which, when projected perpendicularly on the original surface (27), lie within the aperture (41), and wherein the first and second recesses have different apertures, and

making a replica of the patterned mold surface (29) in a first body (105) with a patterned surface (104), wherein the replica contains structures of different sizes."

Whitesides fails to recite or suggest first and second recesses have different apertures. Rather, Whitesides only depicts and recites recesses with common apertures. As stated in the Office Action, Whidesides does not expressly disclose different apertures.

In Fig. 9 of Whitesides, a stamp is made of an anistropically-etched structure. Because the far ends of the stamp contain sharp edges, the contact face is extremely dependent on the pressure. Stamps as shown in Fig. 9, are not useful for printing.

Furthermore, through holes in the master of Fig. 9 appear as etched up to in the tips. This implies that a well-defined stamping surface only results through a single replication step, if all through-holes have the same width. This means that stamping will be successful only if the pattern over the complete surface is made up of pixels of the same size (otherwise the pyramids are of different height). Thus Whitesides recites a single replication technique which includes an additional limitation where the contact face of the final stamp cannot then be a print of the planar "upper side" of the original master. Hence, Whitesides fails to recite or suggest structures of different sizes can be printed. Consequently, Claim 6 is believed patentable over Whitesides for at least these reasons.

The Office Action argues that method of manufacturing a stamp of different apertures would be no different that that of Whitesides. However, M.P.E.P. § 706.02(j) states:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicant respectfully believes that Biebuyck fails to provide suggestion to modify Whiteside's device structure to include apertures of multiple widths, as well as reasonable expectation of success. The claim that the method of manufacturing a stamp of different apertures would be no different to one of ordinary skill in the art at the time of the invention lacks substantiation. Thus the § 103 rejection of Claim 6 additionally fails because no expectation of success exists. Claim 6 is believed patentable for at least these reasons.

Applicant's Claim 1 recites, in pertinent part: "a third recess (13) with an aperture (17) in the printing face (3) is present in the stamp body (5),

which recess (13) has cross-sections parallel to the printing face (3) and becomes substantially narrower as its distance to the printing face (30) increases, said cross-sections, when projected perpendicularly on the printing face (3), lying within the aperture (17),

the aperture (17) of the third recess (13) and the aperture (15) of the first recess (11) each have a dimension in a first direction in the printing face (3), and

said dimension of the aperture (17) of the third recess (13) is at least five times the dimension of said aperture (15) of the first recess (11), wherein at least one of the first and third

recesses has a triangular shape in a plane perpendicular to the printing face."

Hawker fails to recite or suggest a third recess with an aperture that is at least five times the dimension of aperture of the first recess and at least one of the recesses having a triangular shape. Fig. 1 of Hawker clearly depicts a rectangular or polygonal shape in a plane perpendicular to the printing face, as more than three angles can be made from the angles formed by the aperture 14 and the stamp 10. Thus Hawker fails to recite or suggest this feature of Applicant's Claim 1.

In addition, the shape of the recess in a plane perpendicular to the printing face is not merely an obvious substitution, as bending of the bottom can occur to differing extents with differing shapes. The Office Action argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a stamp with varying number or recesses and recess apertures depending on the features needed. However, Applicant respectfully believes that knowledge generally available in the art fails to provide suggestion or motivation to modify Hawker. The argument that different feature sizes may require different sized apertures fails to provide support for the areas of a stamp which fail to contact a substrate surface. Claim 1 is believed patentable for at least these reasons.

Claims 2-3, 5, and 7 depend from one or another of the independent claims discussed above and are believed patentable for at least the same reasons. In addition, Applicant respectfully believes Claims 2-3, 5, and 7 to be independently patentable and request separate consideration of each claim. Applicant further believes the § 103 rejections of Claims 3 and 7 to be moot in light of the above remarks and requests their withdrawal.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned agent may be reached by telephone at the number given below.

Respectfully submitted,

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